

School Prepared Manure and Plant-derived Composting Standard Operating Procedures		
SOP#	Version #	Author: Moses Thompson
Implementation Date:	Reviewed By:	Date Reviewed:

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Note: Using manure that has not been composted completely and properly is a safety hazard, as raw manure often contains harmful pathogens. Use plant-derived compost exclusively if your school is unsure whether it can compost manure according to the best practices.

PURPOSE:

Our school would like to use our garden produce in our cafeteria. The purpose of this SOP is to achieve compliance with the Arizona Department of Health Services (ADHS) School Garden Program that requires an SOP in order to use our school garden produce, which uses school prepared manure and plant-derived composting practices for soil amendments, in the cafeteria. From this point further, school prepared manure and plant-derived composting will be referred to as manure and plant-derived compost(ing).

INTRODUCTION:

In order for our school garden to use the produce from our school garden in the cafeteria, the ADHS School Garden Program requires an SOP when we use manure and plant-derived composting practices for soil amendments. This SOP will provide step by step procedures on how our school produces safe manure and plant-derived compost for our garden.

DEFINITIONS and ABBREVIATIONS:

ADHS: Arizona Department of Health Services

Manure: Feces from chickens and herbivores, including cattle and horses. We would like to use table scraps as well. Manure from pets (or any other omnivores, like pigs and wild animals) is prohibited.

Plant-derived Compost: Compost that is made solely from non-composted plant-based products (garden waste and trimmings, uncooked or raw plant material from the kitchen, shredded paper, and wood chips).

Sanitized: The third step in the cleaning process, after cleaning with hot water and soap and rinsing with hot water, that includes either a bleach solution of 50-100 ppm or quaternary ammonia solution of 200 ppm (or per manufacture specifications).

School Garden Manager: A person responsible for the day to day operations of the school garden.

Soil Amendments: “A physical material intentionally added to the soil to improve the condition of the soil in relation to plant growth or to improve the capacity of the soil to hold water” (FDA, Food Safety Modernization Act, 2013).

Temperature Measuring Device: A thermometer that is designed to take the internal temperature of the compost; it should be a minimum of 2 feet in length.

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POLICY:

Our policy will be to document the following for manure and plant-derived composting:

Location:

Our compost system is located in the Southwest Corner of the garden (site map 12).

- Compost will be located at least 1 meter away from all structures to prevent damage in case of a fire in the compost.
- The compost pile will be placed in a secure location away from potential contamination (i.e. garbage, water runoff, etc.).
- Animal access will be restricted as much as possible (i.e. by use of a fence or other enclosure).

Material and Treatment:

- Only plant-derived materials, chicken manure, table scraps, and herbivore manure will be used for the compost.
- According to the proposed Food Safety Modernization Act (see References section) composting requirements:
 - The compost will be maintained above 131°F for 15 consecutive days and the temperature will be verified by using a temperature measuring device.
 - The compost will be turned at least once per week.
 - The compost will be cured for a minimum of 3 to 6 months.
 - There will be methods in place that prevent cross-contamination of mature or completed compost with fresh, non-composted manure and plant material.
 - Compost must be stable, adequately cured, and soil like before adding to the garden.

Hygienic Practices:

- Hands will be cleaned thoroughly with soap and potable water in a designated location after handling compost or compostable material.

Equipment:

- We have an 8 bin system that is not fully enclosed. When we cure, we use two additional bins that are covered with screening material. Our bins are located 1 meter from school building and 1 meter from the awning.
- All composting equipment will be cleaned and sanitized in a designated location prior to use if being used for other garden activities, such as harvesting.

Compliance:

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- The method used to calibrate the temperature measuring device will be documented before each use. The thermometer will be calibrated according to manufacturer specifications.
- All logs will be available to the ADHS School Garden Sanitarian during inspections. Please see Safety and Quality Control for a list of logs.
- All records and logs will be maintained for a minimum of two years.

SCOPE and RESPONSIBILITIES:

It is the responsibility of the School Garden Manager to document compliance with this policy by creating logs. These logs will be made available to the ADHS School Garden Sanitarian during inspections.

SAFETY and QUALITY CONTROL:

The School Garden Manager will create and maintain existing logs for a minimum of 2 years that document the following:

- Hand washing after handling compost and/or compostable material and tools
- First date compost reached 131°F
- Fifth date compost maintained 131°F
- Tenth date compost maintained 131°F
- Fifteenth date compost maintained 131°F
- The date the compost has finished curing (minimum of two months)
- The date the soil was amended with the compost
- Harvest dates
- Compost thermometer calibration log

MATERIALS, REAGENTS, and EQUIPMENT:

The following items are needed in order to comply with this SOP:

- Temperature measuring device designed to take the internal temperature of the compost,
- Plant-derived and approved manure material for the compost,
- Watering source or methods include using potable water and spraying compost,
- Designated hand tools to be used for composting purposes only (if used for other garden activities, tools will be washed and sanitized prior to use)

SPECIAL NOTES:

This section is for anything you want to note that has not already been addressed.

PROCEDURE:

An 8-bin composting system will be used, one for each day of the week. A compost committee will be in charge of collecting scraps from the kitchen (uncooked or raw plant material from the kitchen) and

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distributing them to the appropriate pile each day. A separate committee will take temperatures and log them in the designated binder.

CORRECTIVE ACTIONS:

If the compost does not reach the proper 131°F temperature for at least 15 consecutive days, the ratio of materials, amount, moisture levels, etc. will be adjusted until the pile reaches 131°F for 15 consecutive days. These dates will be logged in the appropriate temperature log.

REFERENCES:

University of Arizona College of Agriculture and Life Sciences Cooperative Extension. School Garden Food Safety Guidelines:

<http://www.azed.gov/health-nutrition/files/2012/05/uofa-school-garden-food-safety.pdf>

Cornell Waste Management Institute. Fact Sheets:

<http://cwmi.css.cornell.edu/factsheets.htm>

U.S. Food and Drug Administration. Fact Sheets on Subparts of the FSMA Proposed Rule for Produce Safety:

<http://www.fda.gov/Food/GuidanceRegulation/FSMA/ucm334552.htm#F>

APPENDIX:

This Section can be used for items such as:

- Log templates
- Copy of application
- Any additional documents created

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